Introduction to ChipPC ThinX OS

Technical Brief

Document Version 1.0

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Table of Contents

TABLE OF CONTENTS 3
CHAPTER 1 INTRODUCTION 4
OBJECTIVES 4
GENERAL 4
APPLICABLE OS VERSION 4
CHAPTER OVERVIEW 4
CHAPTER 2 CONNECTION MANAGEMENT 5
CREATING A NEW CONNECTION - GENERAL 5
CREATING AN RDP CONNECTION 6
CREATING AN ICA CONNECTION 8
CHAPTER 3 DEVICE CONFIGURATION 15
DEVICE SETTINGS 16
DESKTOP AND SHELL 22
XCALIBUR SETTINGS 24

Chapter 1 Introduction

Objectives

The purpose of this document is to provide a general introduction to the ChipPC ThinX OS.

General

The ChipPC ThinX OS is a propriety operating system that was developed by ChipPC Inc. for use in its Linux based thin clients.

Applicable OS Version

This document is based on ThinX OS, version 1.1.0, build RL0.150802.

Chapter Overview

This document is divided into the following chapters:

- Chapter 1, “Introduction”, provides general information about the document.
- Chapter 2, “Connection Management”, describes the procedures for creating and managing RDP and ICA connections.
- Chapter 3, ”Device Configuration”, describes the various device settings that can be customized to accommodate the needs of the organization and user.

Chapter 2 Connection Management

The primary requirement of any thin client is the ability to connect and establish a session to an application server. The session parameters are defined in its connection specifications.

Creating a New Connection - General

To create a new connection, perform the following steps:

1. From the **Start** menu, select **My Connections**.
2. In the My Connections menu select one of the following connection types:
   - 2.1. Select **New RDP Connection** to create an RDP connection.
   - 2.2. Select **My Citrix** to create an ICA connection.
   - 2.3. Select **New X Connection** to create an X11 connection.

Figure 1 – Connections Menu

NOTE *An ICA connection can also be created via the **My Citrix** desktop icon.*

Creating an RDP Connection

Following the selection of **New RDP Connection** from the My Connections menu, the **RDP Settings** window will open displaying the **General** tab.

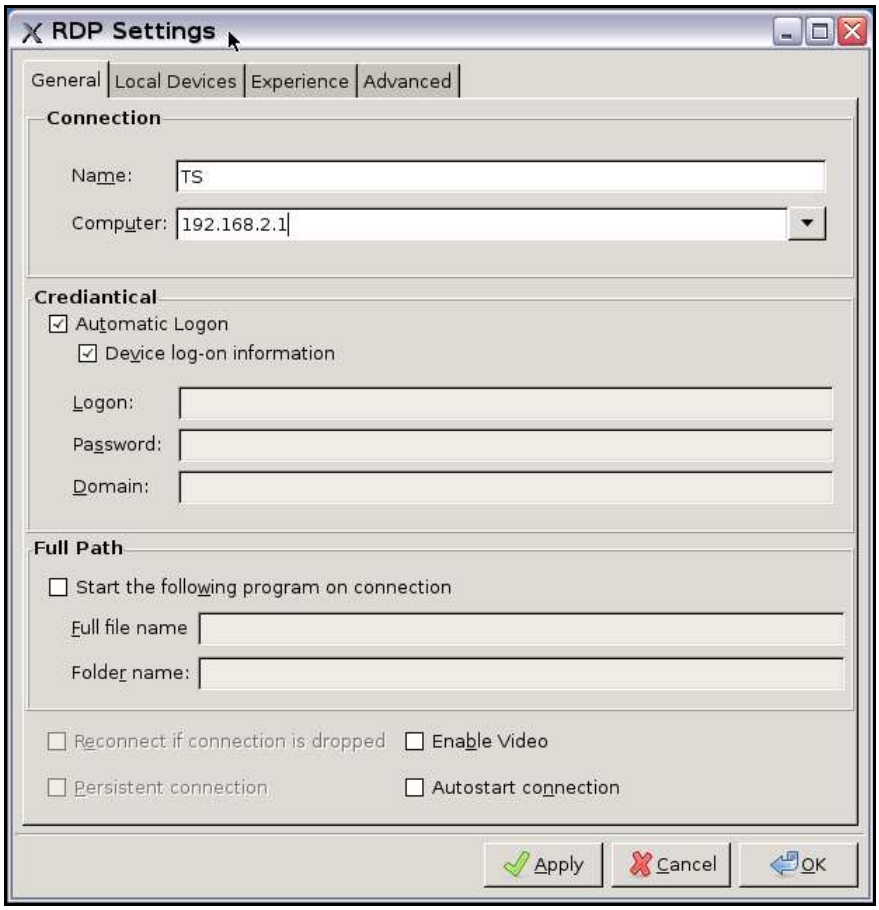


Figure 2 – RDP Settings > General Tab

1. In the **Connection** section of the **General** tab, perform the following:
   1.1. In the **Name** field, type a name to uniquely identify this connection.

NOTE *The Name must not include blank characters (spaces).*

   1.2. In the **Computer** field, type the NetBIOS name (Host name) or IP address of the server that the client will connect to.
2. Click OK to complete the creation of the RDP connection.

An RDP connection icon, with the connection name that was specified above, will now appear on the desktop.

- Double click on the icon to launch the RDP connection.

Figure 3 - RDP Connection Icon

Customizing the RDP Connection

The RDP connection can be customized using advanced settings.

Following is a partial list of the features/customizations available through RDP advanced settings:

- Automatic logon to server.
- Auto-start the connection.
- Customize remote Sound behavior.
- Customize key combinations behavior.
- Customize interaction with local attached devices.
- Change the user experience..
- Customize multiple display behavior.
- Customize performance based on connection speed.

Creating an ICA Connection

Following the selection of **My Citrix** from the My Connections menu, the **My Citrix** window will open. This interface is used to manage all types of ICA connections.

Figure 4 – My Citrix ICA connection manager window

NOTE *In all of the dialog windows the check boxes appear as pressed and un-pressed buttons. The pressed button represents the selected option while the un-pressed button represents the option that is not selected. In the following illustration, the Published Application option is selected and the Server option is not selected*

Figure 5 – Check box selection images

1 ICA Connection Types

There are three types of ICA connections that are managed via the My Citrix dialog:

- Standard ICA Connections
  - Connection to a Server Desktop
  - Connection to a Published Application
- Xcalibur Global generated ICA connections
- PNAgent (includes XenDesktop connections)

Selecting the connection type is performed via the My Citrix **View** menu:

Figure 6 – The My Citrix View Menu

1.1 Creating an ICA Connection to a Server Desktop

To create an ICA connection to a Server Desktop, perform the following:

1. Select **Connection View** from the My Citrix **View** menu. The **Connections** menu will appear on the left side of the menu bar.
2. Click to open the Connections menu.
3. From the Connections menu, select **New…** to open the ICA connection **Properties** window.
4. In the Properties window, select the **Network** settings from the top left drop down list.
5. In the Network settings window, select the **Server** check box.
6. In the **Description** field, type a unique name for the connection.
7. In the **Destination** field, type the NetBIOS name (Host name) or IP address of the server that the client will connect to.
8. Click **OK** to complete the creation of the ICA connection to a server desktop.

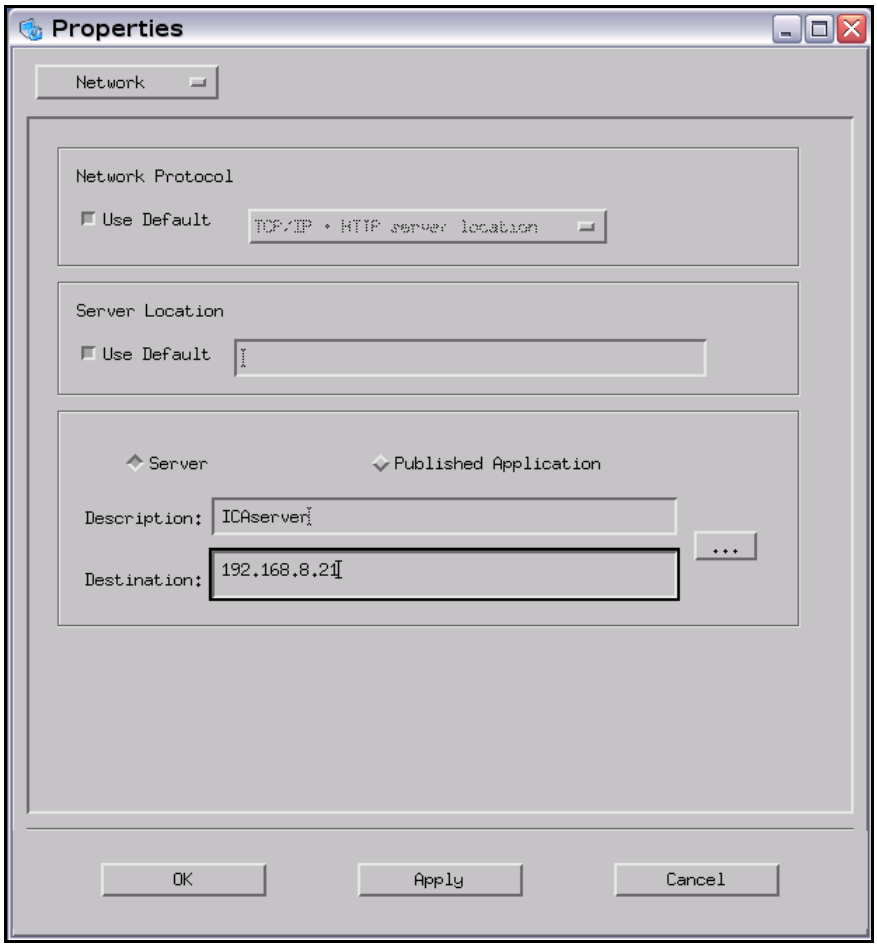


Figure 7 – ICA Connection Properties: Connection to a Server Desktop

1.2 Creating an ICA Connection to a Published Application

To create an ICA connection to a Published Application, perform the following:

1. Select **Connection View** from the ICA client **View** menu. The **Connections** menu will appear on the left side of the menu bar.
2. Click to open the **Connections** menu.
3. From the Connections menu, select **New…** to open the **Properties** window.
4. In the Properties window, select the **Network** settings from the top left drop down list.
5. In the Network settings window, in the **Server Location** section, un-select the **Use Default** check box.
6. In the Use Default field (currently set to not use the default), type the NetBIOS name (Host name) or IP address of the server that the client will connect to.
7. In the next section, select the **Published Application** check box.
8. Click the browse button ( ) to open the **Connection Selection** window.
9. From the list of **Published Applications** in the Connection Selection window, select the desired application.
10. The selected application name will automatically appear in the **Description** and **Destination** fields.
11. Click **OK** to complete the creation of the ICA connection to a published application.

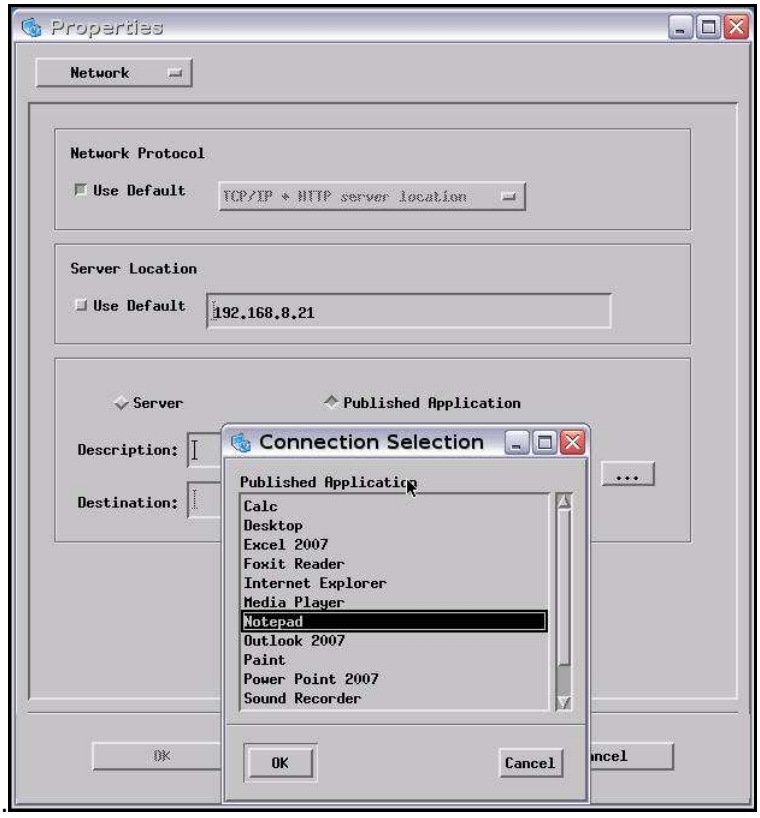


Figure 8 – ICA Connection Properties: Connection to a Published Application

1.3 Launching an ICA connection

The newly created connection will appear in a list of ICA connections that are displayed when selecting the Connection View from the View menu in the My Citrix dialog.

To launch the ICA connection, perform one of following:

- Select the desired connection and click the **Connect** button.
- Click the icon on the left-hand side of the desired connection.
- Select the desired connection and then from the **Connections** menu, select the **Connect** option**.**

Figure 9 – New ICA connections in connection list

1.4 Creating a ICA connection shortcut on the Desktop

To add an icon of an ICA connection to the desktop, perform the following:

1. From the list of ICA connections mentioned above, select the desired connection.
2. From the Connections menu select **Send to**.
3. From the Send to menu, select one of the following options:
   - 3.1. **Desktop (Create Shortcut)** – will place a shortcut on the desktop.
   - 3.2. **Desktop (Autostart Shortcut)** – will place a shortcut on the desktop that will be automatically executed when a user logs on to the device.

1.5 Creating a PNAgent Connection

To create a PNAgent connection, perform the following:

1. Select **PNAgent View** from the My Citrix **View** menu. The **PNAgent** menu will appear on the left side of the menu bar.
2. If this is not the first time the PNAgent is configured, skip to step 5.
3. If this is the first time a PNAgent connection is configured, the **PNA Configuration** dialog will automatically appear. In the PNA Configuration dialog, type the URL of the server that the PNAgent will connect to.

   NOTE *When using XenDesktop, enter the URL of the XenDesktop server.*
4. Click Update to accept the PNA Configuration settings.

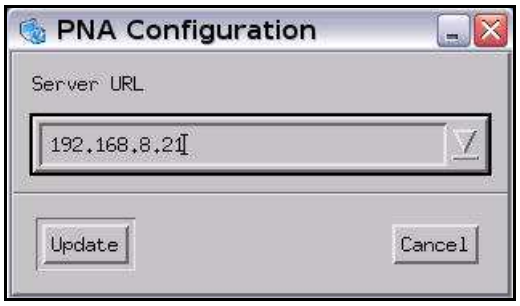


Figure 10 – PNA Configuration Dialog

5. The **Program Neighborhood Agent Logon** dialog will automatically appear.
6. In the Program Neighborhood Agent Logon dialog, type the following credentials for connecting to the PNAgent server:
   6.1. Username.
   6.2. Password.
   6.3. Domain.
7. The **Save Password** option may be selected in order to save the credentials for future PNAgent connections.
8. Click **OK** to complete the creation of the PNAgent connection

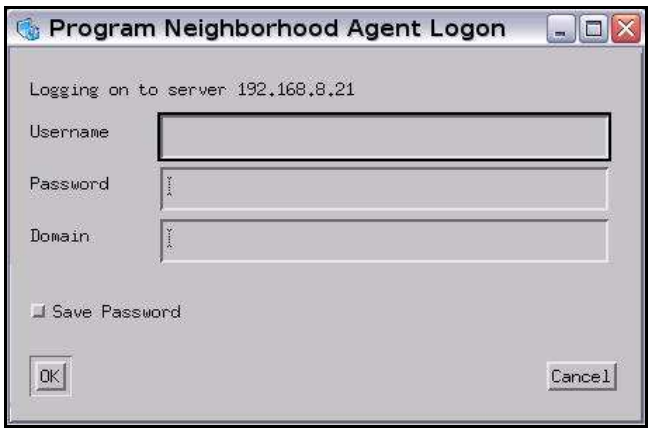


Figure 11 – Program Neighborhood Agent Logon

1.6 Launching a PNAgent connection

The new PNAgent published applications will appear in a list of applications after selecting the PNAgent View from the View menu in the My Citrix dialog.

To launch a PNAgent application, perform one of following:

- Select the desired connection and click the **Connect** button.
- Click the icon on the left-hand side of the desired connection.
- Select the desired connection and then from the **PNAgent** menu, select the **Connect** option**.**

Figure 12 – PNAgent applications List

1.7 Updating the PNAgent application list

To update the application list when modifying a PNAgent or when modifying the available applications on the server side, perform the following:

- In the **My Citrix** dialog open the **View** menu.
- From the View menu, select the **Application Refresh** option.

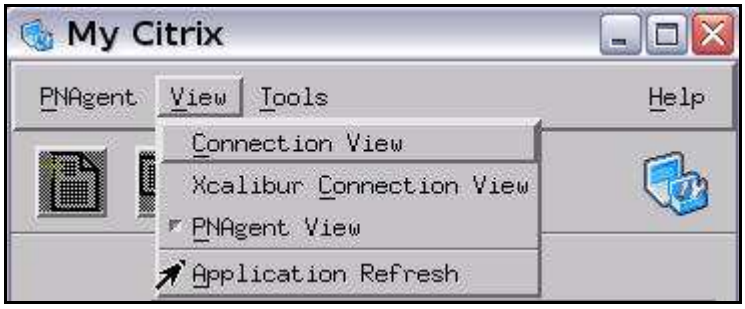


Figure 13 – PNAgent Application Refresh

NOTE *A PNAgent desktop shortcut is configured on the server side.*

Chapter 3 Device Configuration

The ThinX device can be customized and configured to accommodate the needs of the organization and individual.

To configure the ThinX device perform the following:

1. Open the **Start** menu and select the **Settings** menu.
2. From the Settings menu, select the **Device** option to open the **LBT Configuration** dialog.
3. The LBT Configuration dialog is divided into following configuration categories:
   - 3.1. Device Settings.
   - 3.2. Desktop and Shell.
   - 3.3. Xcalibur Settings.

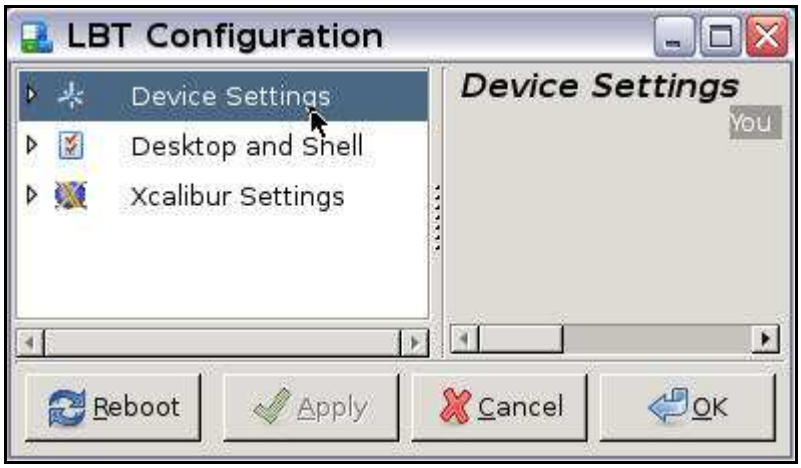


Figure 14 – LBT Configuration

NOTE *By default all the categories are expanded and not collapsed as they appear in the illustration above.*

4. Select the desired configuration category to proceed with the device configuration.

Device Settings

The Device Setting category offers the following configuration areas:

- General
- Advanced Info
- Authentication
- Mouse
- Display
- Keyboard Properties
- Layout Properties
- Time
- Sound
- Network
- Mount Point
- Network ID
- Printers
- Security
- Plugins
- Licenses

The following sections offer explanations regarding the common options available in the Device Settings configuration areas.

1 General

This configuration area provides general system information and the option to restore the device to factory-default settings.

General
Use this page to view system information and restore device factory-default settings.
OEM Name : Chip PC Inc.
Platform : 2xxx
Product Name : NG
Product ID : cd82ffd7-be9f-4d14-a563-000535037ec4
MAC Address: 00:05:35:03:7e:c4
OEM Software Version : 1.0.0
Build : RL0.112011
Press 'Reset' button to restore factory-default settings
Reset

Figure 15 – General settings

To restore the device to factory-default settings perform the following:

1. Click the **Reset** button to open the Restore Now dialog.
2. In the Restore Now dialog select both check boxes and click **OK**.

Restore Now
Restoring factory-default settings requires Restart. Check below to clear device settings and remove installed plug-ins. Restart now?
Clear Device Settings
Remove Plug-ins
OK
Cancel

Figure 16 – Restore Now

2 Advanced Info

This configuration area provides advanced system information and software version info.

3 Authentication

This configuration area is used to enable and configure the IEEE 802.1x protocol (authenticated network access) for cabled networks.

4 Mouse

This configuration area allows the customization of Mouse related properties.

5 Display

This configuration area allows the modification of the Display related settings.

The dialog offers the following options:

- Adjust the **Display Properties** by selecting values from the drop down lists available for the **Colors**, **Screen Area** (resolution) and **Refresh Frequency**. Click the **Test** button to make sure that your monitor support's the adjusted Display Properties.
- Select the **Enable Video** check box to support video acceleration on the device.
- The **Monitor Settings** is used to determine the device behavior when using multiple displays.
- Adjust the **Energy Saving Scheme** to reach the desired energy saving configuration.

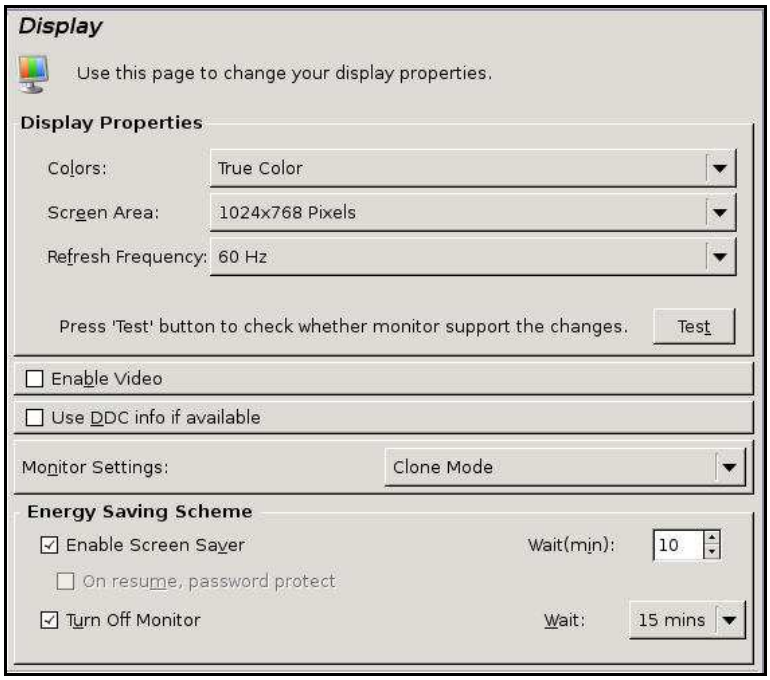


Figure 17 – Display Configuration

6 Keyboard Properties

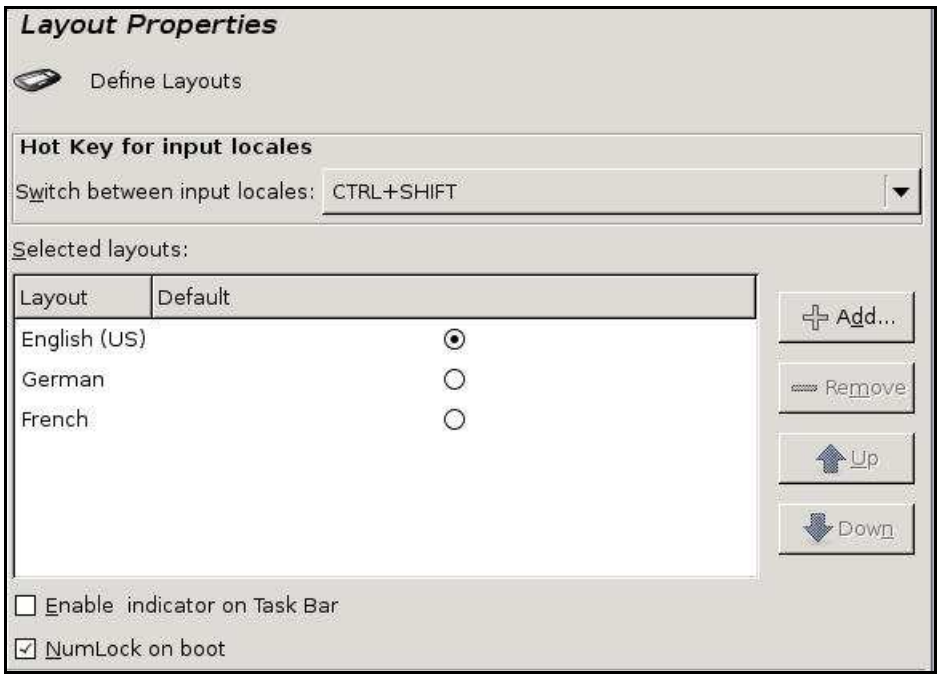
This configuration area allows the customization of the Keyboard related settings.

7 Layout Properties

This configuration area allows the customization of the Language related settings.

The dialog offers the following options:

- Adjust the **Switch between input locales** key-combo using the dropdown list.
- Add a new language by clicking on the **Add** button and selecting the new language from the drop down list that appears.
- Remove an existing language by selecting the language and clicking the **Remove** button.
- Select a default language by clicking on the radio button in the **Default** column of the desired language.
- Select the **Enable indicator on the Task Bar** check box to add an indicator of the currently selected language in the task bar.
- Select the **NumLock on boot** check box to activate NumLock when the device boots.



8 Time

This configuration area allows the modification of Time related settings.

The dialog offers the following options:

- Adjust the current date using the displayed calendar.
- Adjust the current time in the **Current Time** field.
- Modify the time zone by clicking on the **Select 'Time Zone'** button and selecting a value from the list in the **Time Zones** dialog.
- Select the checkbox **Add icon to the Taskbar Notification Area** to add an indicator of the currently time in the task bar

9 Sound

This configuration area allows the modification of Sound related settings.

10 Network

This configuration area allows the modification of Network related settings.

The dialog offers the following options:

- Select the **Disable Network interface** check box to prevent any cabled network connection.
- Select the checkbox **Add Network icon to Taskbar Notification Area** to add an indicator in the task bar displaying the current network connection status
- Select the check box **Prohibit DNS resolver cache** to disable the cashing if DNS query results.
- Select the check box **Do not display link Negotiation error message** to prevent such messages from appearing when the device boots.
- A new NetBIOS name for the device can be typed in the **Terminal Name** field.
- The device TCP/IP settings can be set using one of the following options:
  - Select **Obtain IP address from DHCP server** to obtain the settings from a DHCP server. Click the **Network info** button to display these settings.
  - Select **Use the following IP address** to manually enter the settings. Click the **DNS/WINS** button to configure the settings for the DNS and WINS servers.
- The network speed can be adjusted using he **Network Speed** dropdown list.

11 Mount Point

This configuration area is used to enable and configure network file sharing using the NFS protocol.

12 Network ID

This configuration area allows the modification of the device's authentication behavior when accessing windows SMB shares as well as site access via the web browser.

13 Printers

This configuration area is used to manage connections to local USB printers.

14 Security

This configuration area is used to modify the settings that are designed to prevent unauthorized modification of the device settings.

The dialog offers the following options:

- Select the check box **Secure Terminal Settings** and click the **Password** button to protect the LBT Configuration dialog from unauthorized access.
- Select the check box **Enable My LBT Setup** to create a customized LBT configuration dialog that is not password protected. Click the **Customize** button to open a dialog that enables the selection of the tabs that will be available in the **My LBT Setup** dialog. The customized LBT configuration dialog is accessible via the following menus:
  Start > **Settings** > **My LBT Setup**.

15 Plugins

This configuration area is used to view all third party plug-ins that are currently installed on the device and to manage the plug-ins that are installed manually (that is to say not via Xcalibur Global).

The dialog offers the following options:

- The **Available Plug-ins** section, displays a list of the currently installed plug-ins.
- The **New** button allows the user to install a new plug-in.
- The **Delete** button allows the user to delete an installed plug-in.
- The **Configure** button is used to modify plug-in settings.
- The **Advance** button is used to define the properties of the plug-in installation policy.

16 Licenses

This configuration area is used to manage all licenses that are currently installed on the device.

The dialog offers the following options:

- The **Installed Licenses** section, displays a list of the currently installed licences.
- The **New license** button allows the user to install a new plug-in.
- The **Delete** button allows the user to delete an installed license.

Desktop and Shell

The Desktop and Shell category offers the following configuration areas:

- Desktop Settings
- Taskbar

The following sections offer explanations regarding the common options available in the Device Settings configuration areas.

1 Desktop Settings

This configuration area allows the modification of the device Desktop interface behavior and appearance.

The dialog offers the following options:

- Select the check box **Disable connections configuration** to prevent users from editing connection settings.
- Select the check box **Hide 'My Citrix' icon from Desktop** to disable the display of the 'My Citrix' icon on the desktop.
- Select the check box **Hide all connection shortcuts from Desktop** to disable the display any connection shortcut on the desktop.
- Select the check box **Hide 'Media Player' icon from Desktop** to disable the display of the 'Media Player' icon on the desktop.
- Select the check box **After user logged-off from all sessions perform device log-off** to force the device to reboot when all sessions are closed.
- Select the check box **Allow running only one concurrent session** to prevent more than one session running at the same time.
- Select the check box **Run VNC Server** to run the server side of the VNC application.
- Select the check box **Autostart 'My Citrix'** to open the 'My Citrix' dialog as soon as the desktop appears.

2 Taskbar

This configuration area allows the modification of the device Taskbar interface behavior and appearance.

The dialog offers the following options:

- Select the check box **Show Network Status** to add a network status icon to the taskbar notification area.
- Select the check box **Show Process Status** to add a process status icon to the taskbar notification area.
- Select the check box **Hide 'Shutdown' item from Start Menu** to disable the display of the 'Shutdown' item in the Start menu.
- Select the check box **Hide 'Reboot' item from Start Menu** to disable the display of the 'Reboot' item in the Start menu.
- Select the check box **Hide 'Applications' item from Start Menu** to disable the display of the 'Applications' item in the Start menu.
- Select the check box **Hide 'My Connections' item from Start Menu** to disable the display of the 'My Connections' item on in the Start menu.

CAUTION! *Use the next 2 settings very carefully*

- Select the check box **Hide 'Settings' item from Start Menu** to disable the display of the 'Settings' item in the Start menu.
- Select the check box **Hide 'Device' item from Settings menu** to disable the display of the 'Device' item in the Settings menu.
- Select the check **box Hide 'Upgrade' item from Settings menu** to disable the display of the 'Upgrade' item in the Start menu.

Xcalibur Settings

The Xcalibur Settings category offers the following configuration areas:

- General
- Server List
- Locator
- DHCP
- SNMP
- Protocol Param

The following sections offer explanations regarding the common options available in each of the Xcalibur Settings configuration areas.

1 General

This configuration area allows the user to manage the behavior of the Xcalibur client.

The dialog offers the following options:

- Select the check box **Enable connection to Xcalibur Server Farm** to manually activate the Xcalibur client.
- Select the check box **Add Xcalibur-Status icon to Taskbar Notification Area** to add an icon that displays the Xcalibur client connection status.
- Select the check box **Ping each Server on the Farm before connect** to test the connectivity to Xcalibur Global servers before connecting.
- In the section **Define Xcalibur Communications Failure/Disable Behavior**, use the drop down list to select the device behavior if it fails to create a connection to an Xcalibur Global server.
- Click the **Clear** button to clear all policies obtained from Xcalibur Global.

2 Server List

This configuration area allows the user to manage a locally configured list of servers that will be used when attempting to connect to Xcalibur Global. In addition to communication parameters, each server has a priority setting to support Redundancy and Load Balancing.

3 Locator

The Xcalibur client can obtain information regarding the Xcalibur server from various sources. This interface is used to disable/enable various sources and to determine the priority of each source.

4 DHCP

When using the DHCP protocol to obtain information about the Xcalibur Global server, this interface can be used for the following tasks:

- Configuring the method used to retrieve the information from the DHCP server.
- Display information obtained from the DHCP server.

5 SNMP

This interface is used to configure the device SNMP setting. These settings will affect the ability of Xcalibur Global to locate this device using the SNMP protocol

6 Protocol Param

Use this interface to fine tune the Xcalibur Protocol.